CLAIMS

1. Connection device between members of a machine comprising at least one first and one second coupling suitable for being connected together to orientate said members of said machine in work position, characterised in that said first coupling comprises at least one first and one second toothed elements mutually mobile between an initial reference configuration and a work configuration corresponding to a predetermined orientation of said members of said machine, said second coupling comprising at least two toothed elements fixed together with said initial configuration and mutual displacement means of said second coupling with respect to said first coupling suitable for taking said second coupling into a connection position with said first coupling once said work condition of said first coupling has been reached in correspondence with a small relative displacement between said first and second toothed elements of said first coupling equal to the difference between the sum of the pitch of two or more teeth of said first toothed element of said first coupling and the sum of the pitch of two or more teeth of said second toothed element of said first coupling.

2. Device according the previous claim, characterised in that said displacement means are suitable for mutually displacing said second coupling with respect to said first coupling by an amount proportional to the relative displacement of the two elements of the first coupling.

3. Device according to one or more of the previous claims, characterised in that said mutually mobile toothed elements of said first coupling have an annular configuration and are concentric and, correspondingly, said mutually fixed toothed elements of said second coupling have an annular configuration and are concentric.

4. Device according to one or more of the previous claims, characterised in that said mutually mobile toothed elements of said first coupling have different numbers of teeth.

5. Device according to one or more of the previous claims, characterised in that said mutually fixed toothed elements of said second coupling have different numbers of teeth.

6. Device according to one or more of the previous claims, characterised in that inner mobile toothed elements and inner fixed toothed elements have less teeth than corresponding outer mobile toothed elements and outer fixed toothed elements.

7. Device according to one or more of the previous claims, characterised in that said inner mobile toothed elements and said inner fixed toothed elements have the same number of teeth and, in the same way, said outer mobile toothed elements and said outer fixed toothed elements have the same number of teeth.

8. Device according to one or more of the previous claims, characterised in that the difference between the

number of teeth of said outer mobile toothed elements and of said inner mobile toothed elements is greater than one and, moreover, the difference between the number of teeth of said outer fixed toothed elements and of said inner fixed toothed elements is greater than one.

9. Device according to one or more of the previous claims, characterised in that said machine is a chip machine.

10. Device according to one or more of the previous claims, characterised in that said device connects a piece-carrying table and/or a treatment head and/or a piece-carrying chuck and/or a divider to a structure of said machine.

11. Machine tool comprising a connection device between its members comprising at least one first and one second coupling suitable for being connected together to orientate said members of said machine in work position, characterised in that said first coupling comprises at least one first and one second toothed elements mutually mobile between an initial reference configuration and a work configuration corresponding to a predetermined orientation of said members of said machine tool, said second coupling comprising at least two toothed elements fixed together with said initial configuration and displacement means of said second coupling with respect to said first coupling suitable for taking said second coupling into a connection position with said first coupling once said work condition of said first coupling has been reached in correspondence with a relative displacement

between said first and second toothed elements of said first coupling equal to the difference between the sum of the pitch of two or more teeth of said first element of said first coupling and the sum of the pitch of two or more teeth of said second toothed element of said first coupling.

12. Connection device between members of a machine, all as described, represented and claimed.